

VENDOMA-MPG DVR

(Digital Video Recorder)

Hardware Installation Guide

Version 1.00.00

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Preface

This guide book describes the individual hardware components and how to install them.

For a description of the software and how to install it, please refer to the Installation and User Guide provided with your unit.

This guide is for the following Aventura Technologies products: Vendoma MPG 12004, 24008, and 48016 capture boards.

Board shapes and item names may be slightly different than those in this manual.

We are looking forward to hearing your comments about our DVR. Should you have any questions, please contact us.

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www.vendoma.com

1. Features

About Your Vendoma-MPG DVR

4, 8, or 16 Camera Input/Output

Normal input condition: 75 Ohm, 1 Volt

1 4, 8, or 16 Sensor Inputs

4 channels, 4 sensors (16 sensors optional)

8 channels, 8 sensors (16 sensors optional)

16 channels, 16 sensors

Note: DC 12 Volt power is required

1-16 Digital Outputs (Relay Outputs)

4 channels: 4 Relays (16 sensors optional)

8 channels 4 Relays (16 sensors optional)

16 channels 8 Relays (16 sensors optional)

Note: DC 12 Volt power is required

Sound Recording and Two Way Communications Capabilities

16 channel sound recording.

Sound can be recorded locally on 16 channels; however, two-way voice communication can be done remotely on only one channel

Multi-Viewing

You can view 1, 4, 9, 10, or 16 cameras on your screen.

A full screen option is also available.

Pan/Tilt/Zoom/Focus Remote Control

You can manipulate your Pan/Tilt/Zoom cameras via Vendoma Main.

Auto Rebooting System

If this feature is enabled, when the DVR detects a malfunction in the system, the system reboots and corrects the malfunctions. This is also called the Watchdog feature.

Motion Detection and Sensor Trigger

You can set the DVR to record only when movements are detected, which saves storage space.

Scheduled recording

You can specify a recording schedule.

Data Backup and Auto Backup

Backed up data can be transferred to different media, such as DAT, CD, or DVD. You can also back up the data from a specific camera and view the date and time stamp on the footage. Like the scheduled recording, the data backup program can also be scheduled.

Digitalized Video Search

Recorded data can be played back digitally on one or more cameras at a time.

By entering the date and the time, you can retrieve an image from the video. You can also edit, enlarge, save, and print images separately.

Network Support (TCP/IP, ISDN, and PSTN Support)

With network software, you can log in to Vendoma-Main remotely to view live recording, search and save video data locally, and even change the DVR's settings.

2. Installation Notes

We recommend the following for ideal performance:

Intel chip motherboards

Intel Pentium 4 or equivalent (Nothing lower than a 2.0 GHz Celeron)

256 MB or more of RAM

80 GB or more hard disk space

If you try to use a 160 GB hard drive or higher, your operating system should be updated with the latest service pack.

Windows 2000 or Windows XP

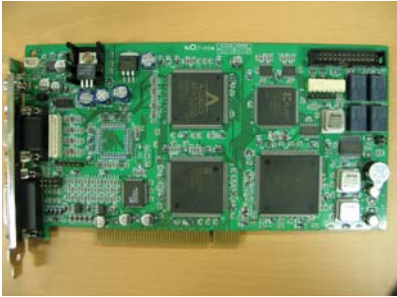



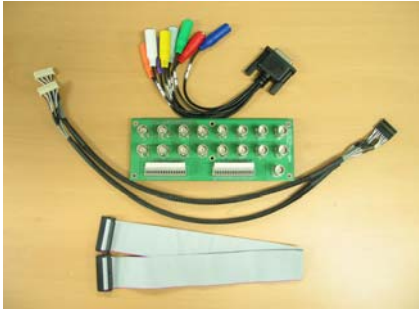
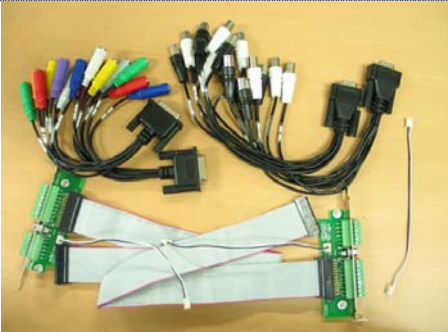

Screen savers and power management must be disabled

System standby and energy saving mode for both the hard drive and the monitor should be disabled

For sound recording DirectX 8.0 or higher must be installed

ATI video cards are recommended, but any product higher than a 128 Radeon can be used

3. Products and Components

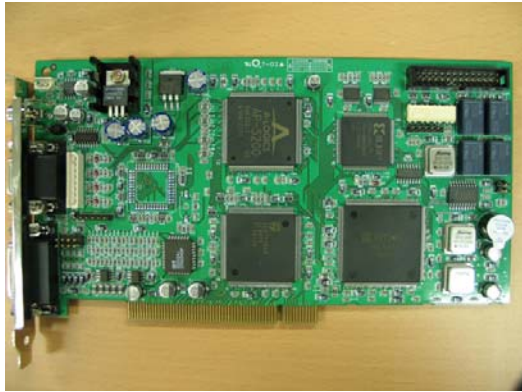
	
<p>VENDOMA-MPG 12004 (120 Frames per second, 4 Channels)</p>	<p>VENDOMA-MPG 24008 (240 Frames per second, 8 Channels)</p>
	
<p>MPG 12004 Accessory</p>	
	
<p>MPG 24008 Accessory Type A</p>	<p>MPG 24008 Accessory Type B</p>
	
<p>MPG 48016 Accessory Type A</p>	<p>MPG 48016 Accessory Type B</p>

The boards pictured above and their accessories may be subject to change by hardware upgrade.

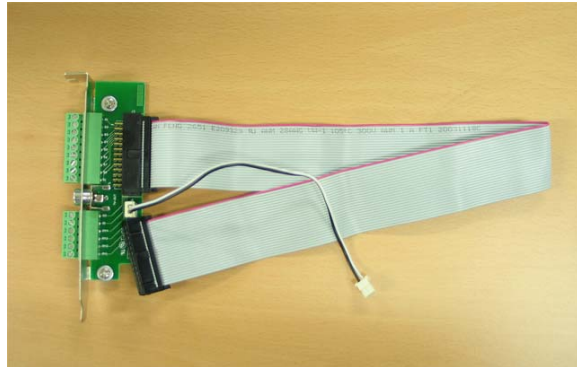
4. Install Capture Board

4-1. VENDOMA MPG 12004 Board

MPG 12004 Board and Accessories



MPG 12004 Board



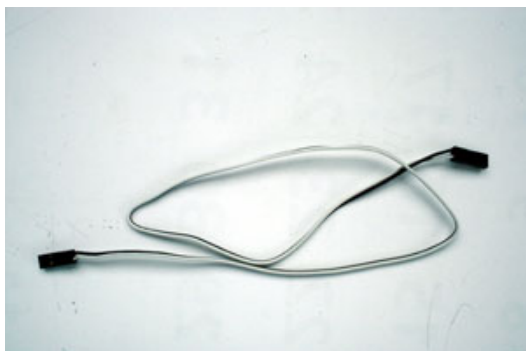
TV-Out, Sensor, Relay



Video Input

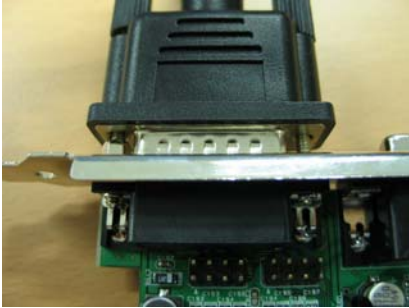


Audio Input

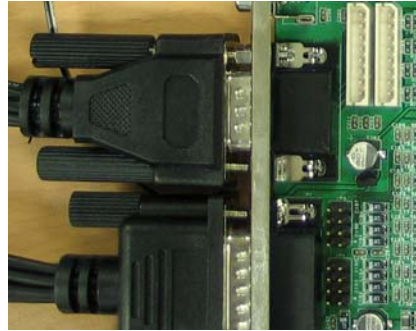


Watchdog

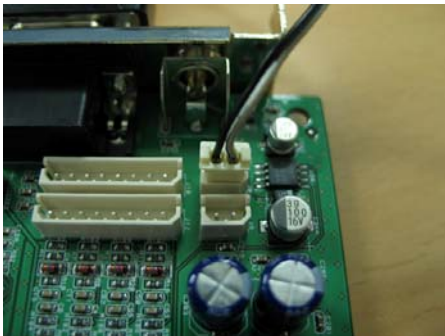
1 Connect audio input cable



2 Connect video input cable



3 Connect TV-OUT cable



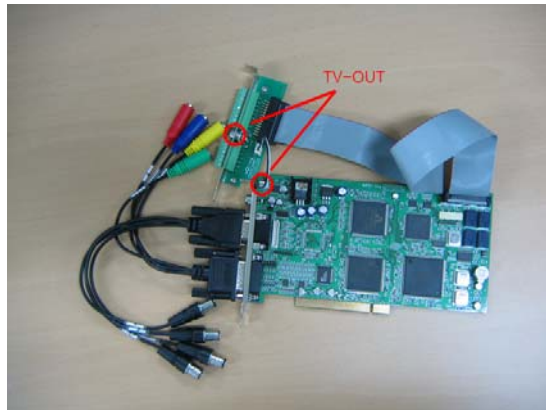
4 Connect sensor relay cable



5 Connect Watchdog cable




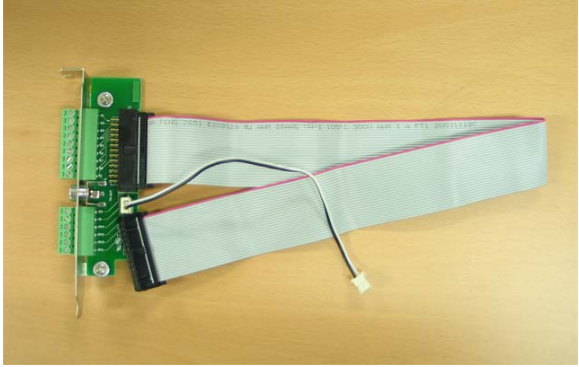


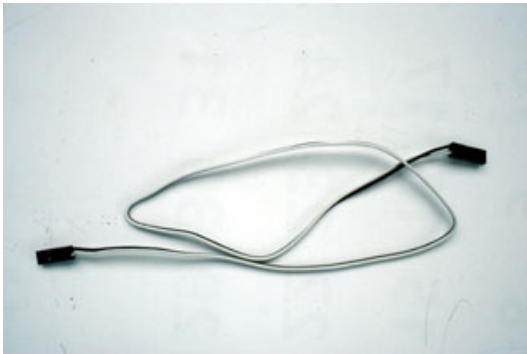
Assembly View



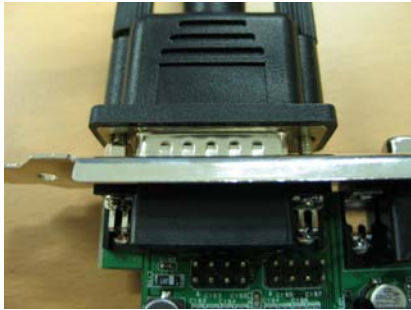
Note:

1. After connecting the Watchdog cable, the other end of the cable must be plugged in to the Reset pin of the PC's motherboard. The Reset switch from the PC must be plugged in next to the Watchdog on the DVR card.
2. If the Watchdog cable and/or the Reset switch are connected incorrectly, the system will not reboot and you may not have video. Try reconnecting the pins to restore the video.

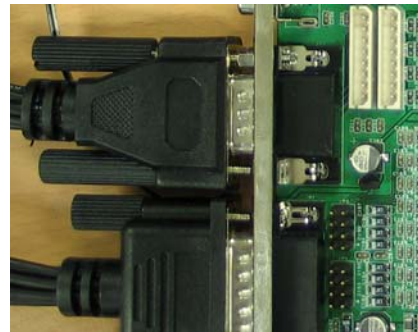
4-2. VENDOMA MPG 24008 Board Type A

MPG 24008 Board and Accessories	
	
MPG 24008 Board	TV-Out, Sensor, Relay
	
Video Input cable	Audio Input cable
	
Watchdog	

1 Connect audio input cable



2 Connect video input cable



3 Connect TV-OUT cable



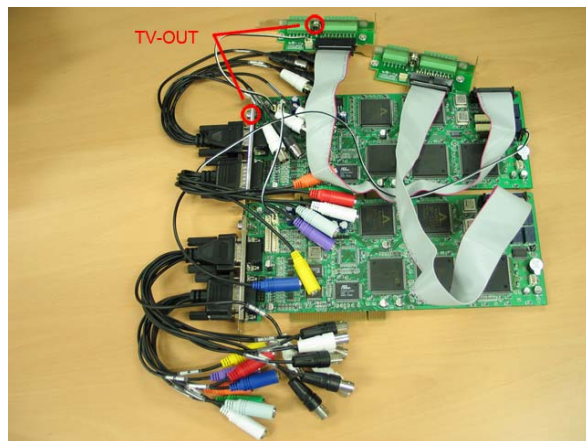
4 Connect sensor relay cable



5 Connect Watchdog cable



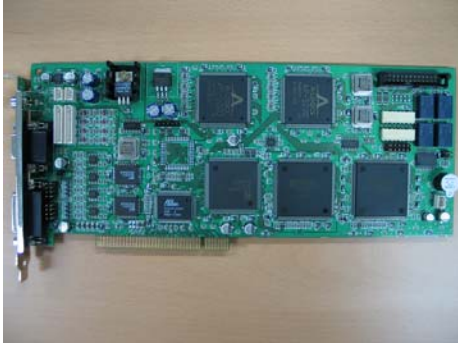
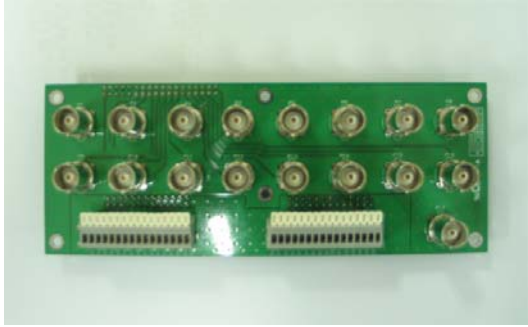

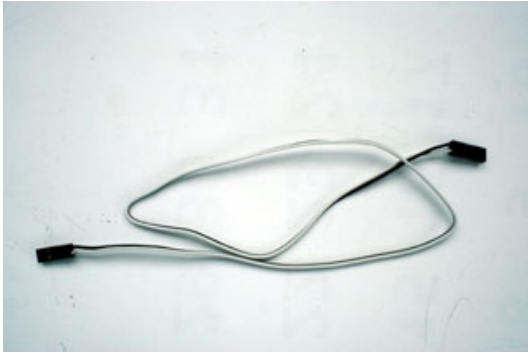


Assembly View



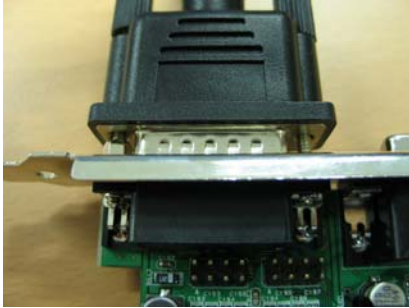
Note:

1. After connecting the Watchdog cable, the other end of the cable must be plugged in to the Reset pin of the PC's motherboard. The Reset switch from the PC must be plugged in next to the Watchdog on the DVR card.
2. If the Watchdog cable and/or the Reset switch are connected incorrectly, the system will not reboot and you may not have video. Try reconnecting the pins to restore the video.

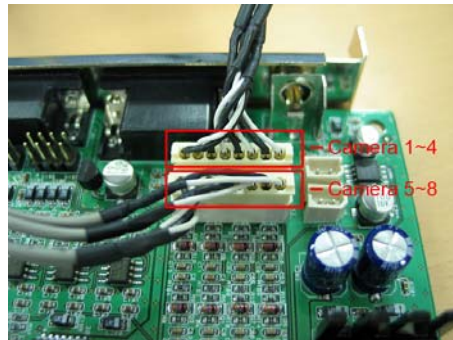
4-3. VENDOMA MPG 24008 Board Type B

MPG 24008 Board and Accessories	
	
MPG 24008 Board	BNC Back panel
	
Audio Input cable	Watchdog
	
Video Input cable	Sensor & relay cable

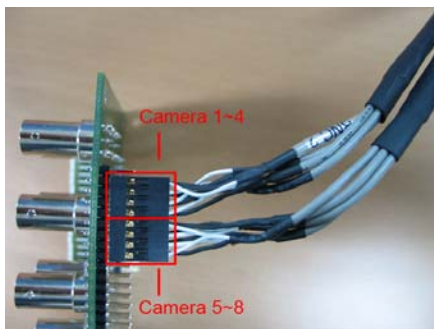
1 Connect Audio Input cable



2 Connect BNC cable



3 Connect Back panel cable



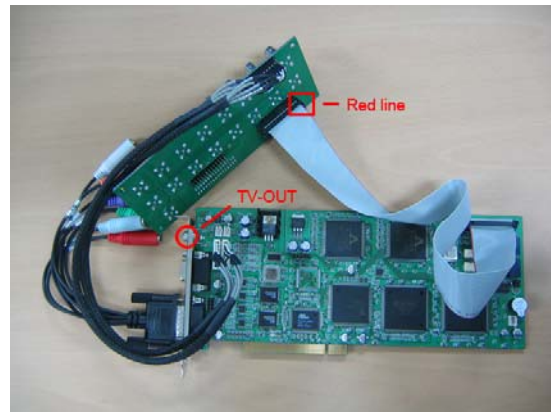
4 Connect Sensor Relay cable



5 Connect Watch dog cable



Assembly View

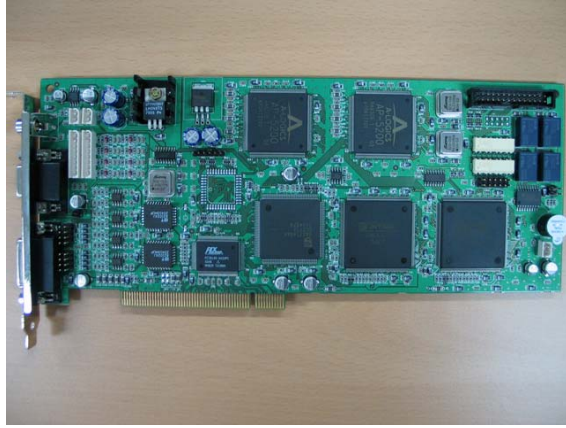


Note:

1. After connecting the Watchdog cable, the other end of the cable must be plugged in to the Reset pin of the PC's motherboard. The Reset switch from the PC must be plugged in next to the Watchdog on the DVR card.
2. If the Watchdog cable and/or the Reset switch are connected incorrectly, the system will not reboot and you may not have video. Try reconnecting the pins to restore the video.

4-4. Vendoma MPG 48016 Board (Board TYPE A)

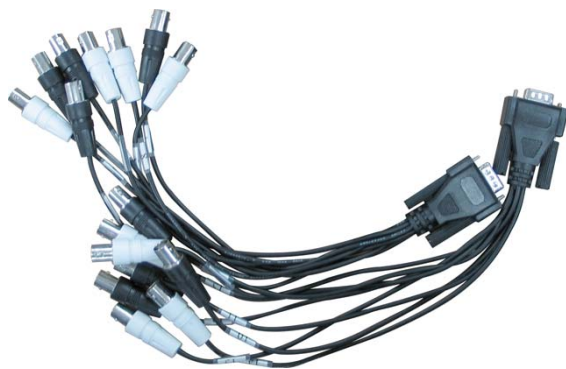
MPG 48016 Board and Accessories



MPG 24008-1 Board



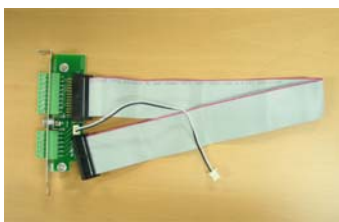
MPG 24008-2 Board



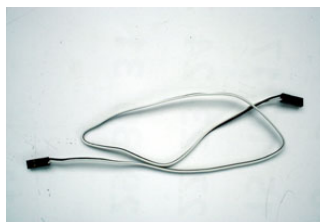
Video Input cable



Audio Input cable



TV-Out, Sensor, Relay 2EA



Watchdog



TV-OUT Loop

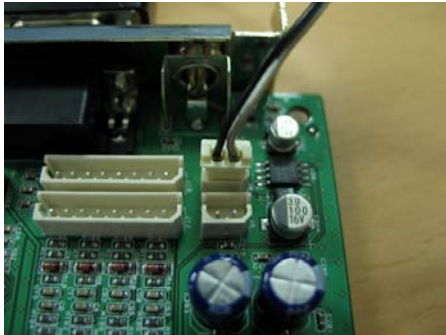
1 Connect Video cable
(MPG 24008-1 & MPG 24008-2)



2 Connect Audio cable
(MPG 24008-1 & MPG 24008-2)



3 Connect TV-OUT cable
(MPG 24008-1 Only)



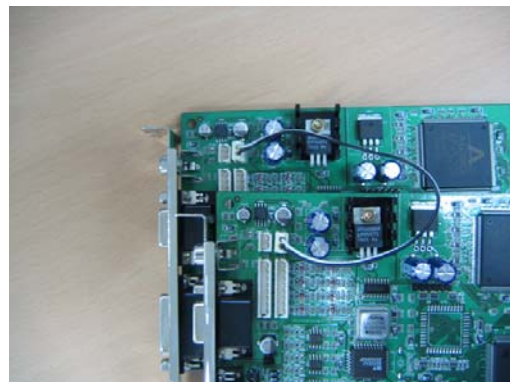
4 Insert Sensor Relay
(MPG 24008-1 & MPG 24008-2)



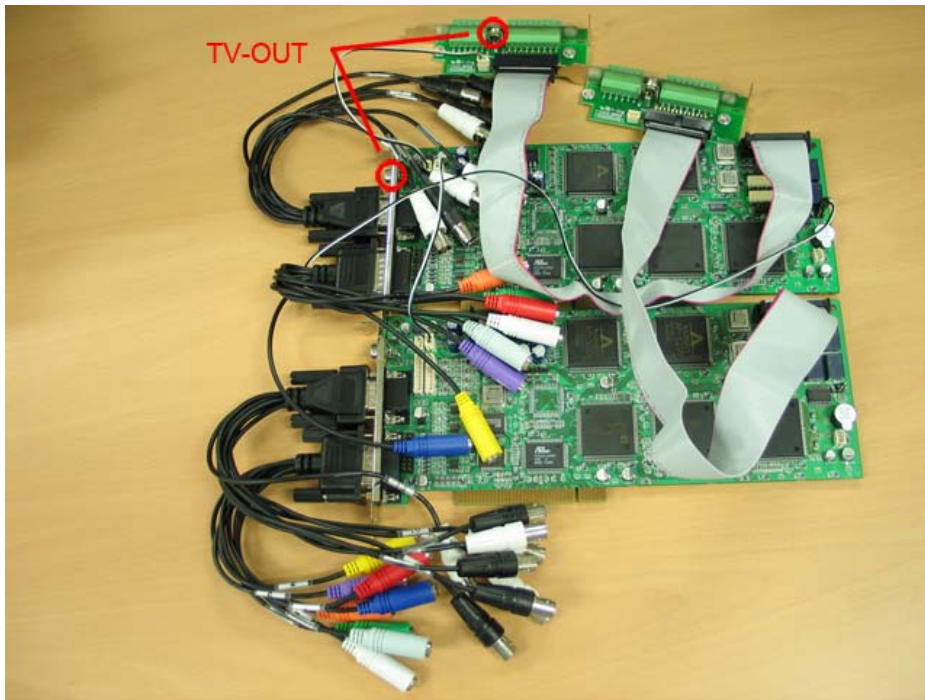
5 Connect Watch dog cable
(MPG 24008-1 Only)



6 MPG 24008-1 & MPG 24008-2
Hook up TV-OUT Loop





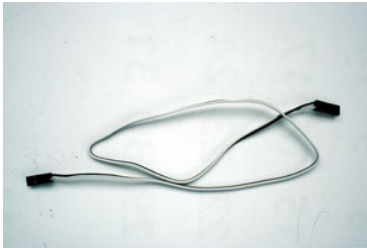




Assembly View



1. After connecting the Watchdog cable, the other end of the cable must be plugged in to the Reset pin of the PC's motherboard. The Reset switch from the PC must be plugged in next to the Watchdog on the DVR card.
2. If the Watchdog cable and/or the Reset switch are connected incorrectly, the system will not reboot and you may not have video. Try reconnecting the pins to restore the video.

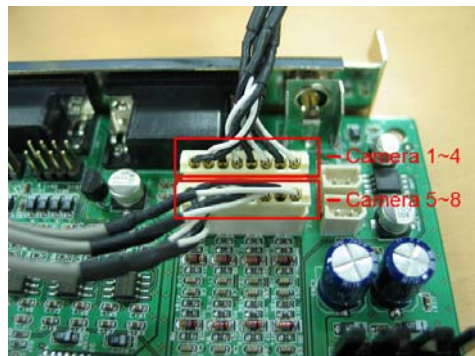
4-5. Vendoma MPG 48016 Board TYPE B

MPG 48016 Board and Accessories		
		
MPG 24008-1 Board	MPG 24008-2 Board	
		
Video Input cable	Audio Input cable	
		
Watchdog	TV-OUT Loop	Sensor & relay cable

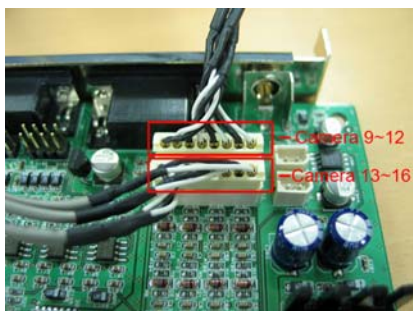
1 Connect Audio cable
(MPG 24008-1 & MPG 24008-2)



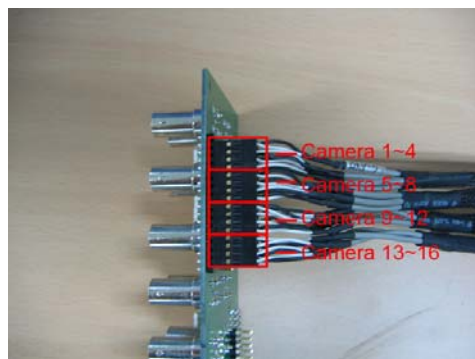
2 Connect BNC cable
(MPG 24008-1 & MPG 24008-2)



3 Connect BNC cable
(MPG 24008-1 & MPG 24008-2)



4 connect Back panel cable



5 Insert Sensor Relay
(MPG 24008-1 & MPG 24008-2)

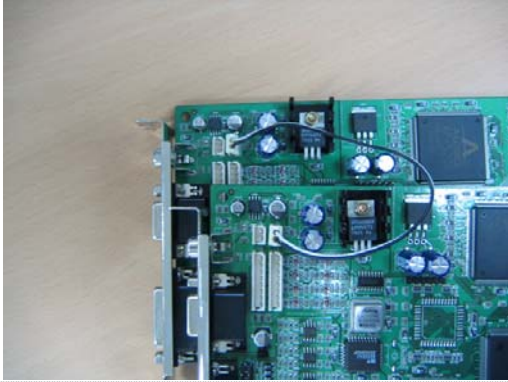


6 Connect Watch dog cable
(MPG 24008-1 Only)



7 MPG 24008-1 & MPG 24008-2

Hook up TV-OUT Loop



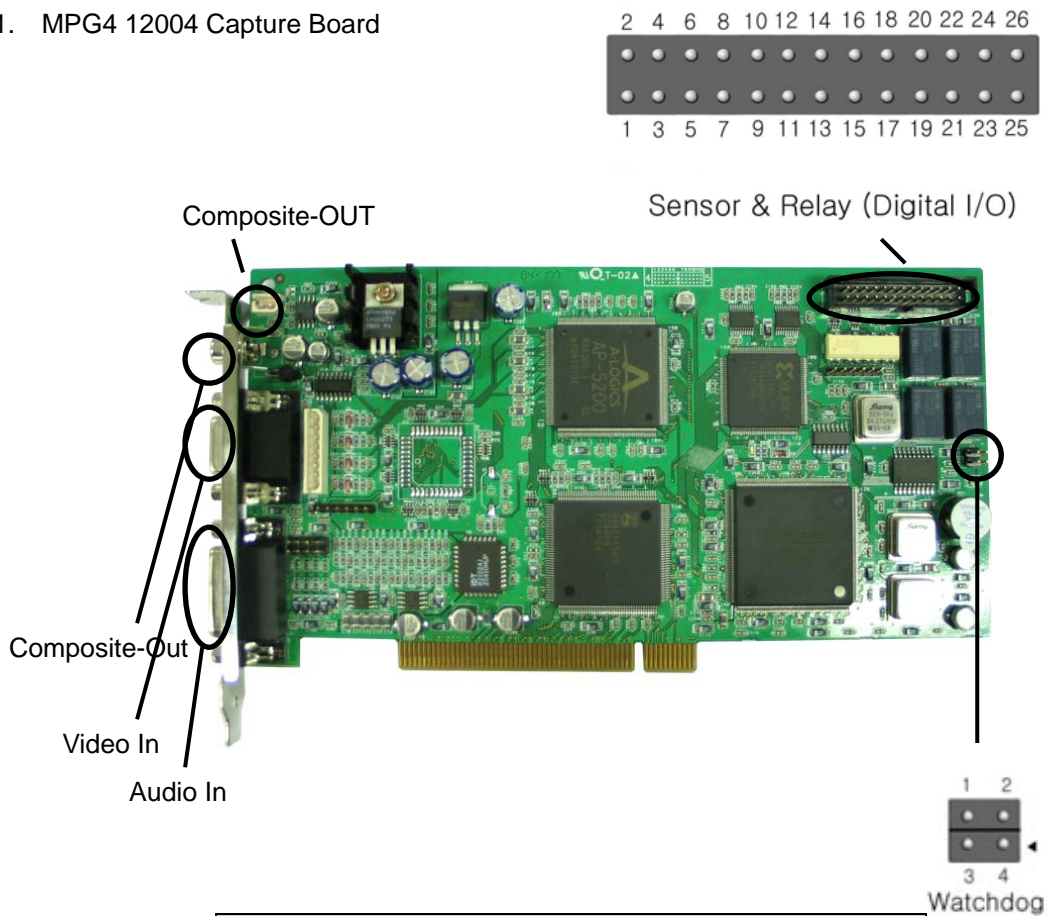
Assembly View



1. After connecting the Watchdog cable, the other end of the cable must be plugged in to the Reset pin of the PC's motherboard. The Reset switch from the PC must be plugged in next to the Watchdog on the DVR card.
2. If the Watchdog cable and/or the Reset switch are connected incorrectly, the system will not reboot and you may not have video. Try reconnecting the pins to restore the video.

5. Pin numbers

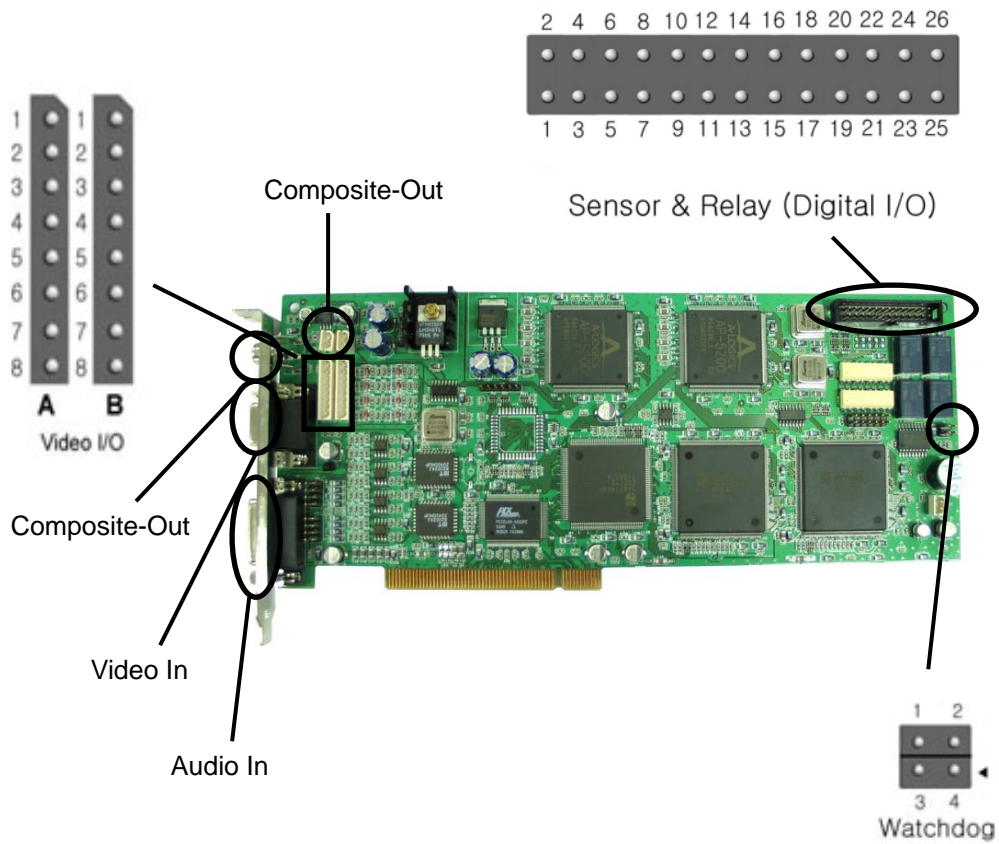
5-1. MPG4 12004 Capture Board



Sensor & Relay(digital I/O)	
Pin name	Pin number
Sensor Input 0-3	1-4
Input Common 0-1	17, 18
Relay(Digital) Output 0-3	19-22
Output Common 0-1	23, 24

Watchdog	
Pin name	Pin number
Signal Ground	1, 3
Reset Signal	2, 4

5-2. MPG 24008 Capture Board & MPG 48016 Capture Board



Video I/O	
Pin name	Pin number
Video In	1, 3, 5, 7
Signal	2, 4, 6, 8

Video I/O (Camera Connector)	
Group name	Camera number
A	Camera 1-4
B	Camera 5-8

Sensor & Relay(digital I/O)	
Pin name	Pin number
Sensor Input 0-7	1-8
Input Common 0-1	17, 18
Relay(Digital) Output 0-3	19-22
Output Common 0-1	23, 24

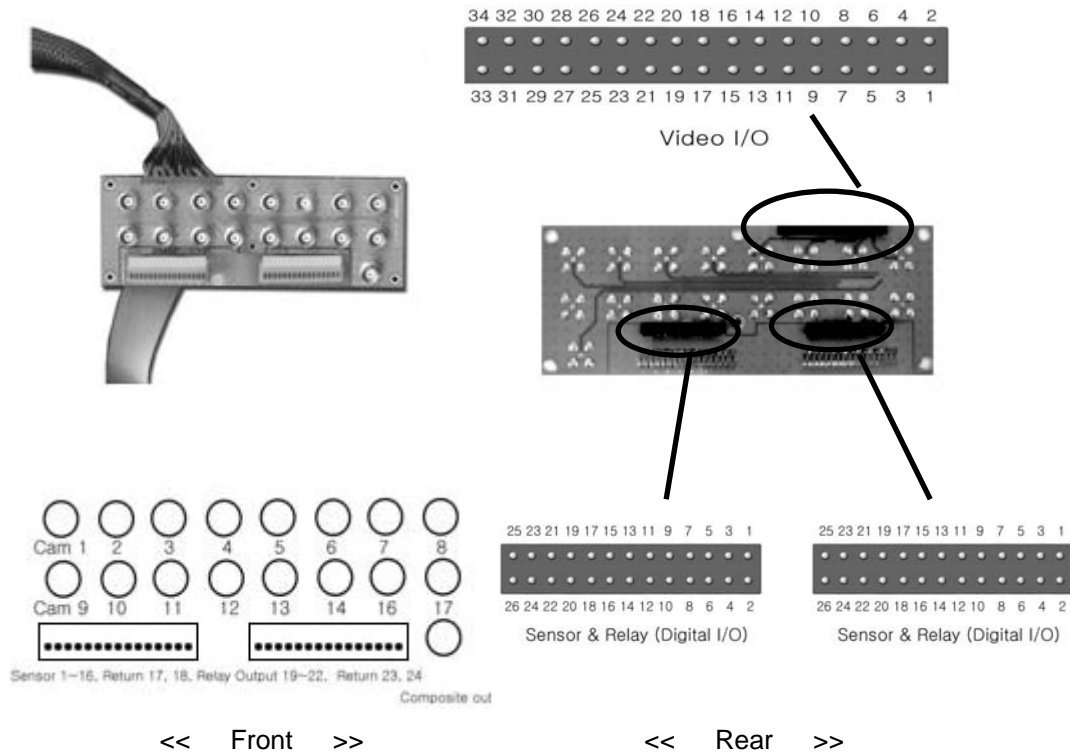
Watchdog	
Pin name	Pin number
Signal Ground	1, 3
Reset Signal	2, 4

Pin Arrangements of MPG 48016 are as follows:

Video I/O (Camera Connector)			
MPG 24008-1		MPG 24008-2	
Group name	Camera number	Group name	Camera number
A	Camera 1-4	A	Camera 9-12
B	Camera 5-8	B	Camera 13-16

5-3. Accessories

Back Board



Video I/o	
Pin name	Pin number
Signal Ground	1, 3, 5-29, 31, 33
Composite	2
Video in 0-15	4, 6, 8-30, 32, 34

* Pig tail	Sensor & Relay 8 Channel	
	Sensor & Relay(Digital I/O)	
	Pin name	Pin number
	Sensor Input 0-7	1-8
	Input Common 0-1	17, 18
	Relay(Digital) Output 0-3	19-22
	Output Common 0-1	23, 24

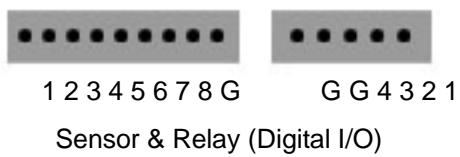
	Sensor & Relay 16 Channel	
	Sensor & Relay(Digital I/O)	
	Pin name	Pin number
	Sensor Input 0-7	1-8
	Input Common 0-1	17, 18
	Relay(Digital) Output 0-3	19-22
	Output Common 0-1	23, 24



Video Input

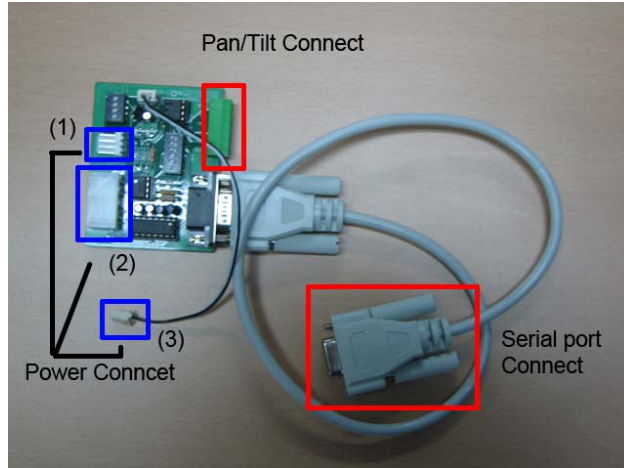


Audio Input

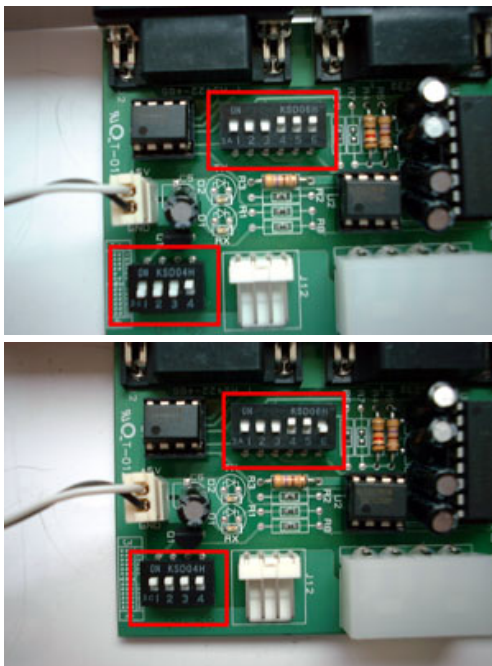


6. RS232 TO RS422/485 Converter

This is the converter for controlling the Pan/Tilt/Zoom camera.

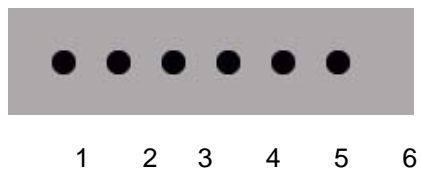


1. Connect the cable to computer serial Port.
2. You can select one of three Power connectors:
 - 1 : Power from Capture Board (+5V) 1
 - 2 : Power from System Power Supply 2
 - 3 : Power from System Power Supply 3
3. Connect data line from camera to this port.
4. Set the jumper switch for an RS-422 type Pan/Tilt/Zoom camera



If you have an RS232 type Pan/Tilt/Zoom camera, connect the cable directly to the RS232 port.

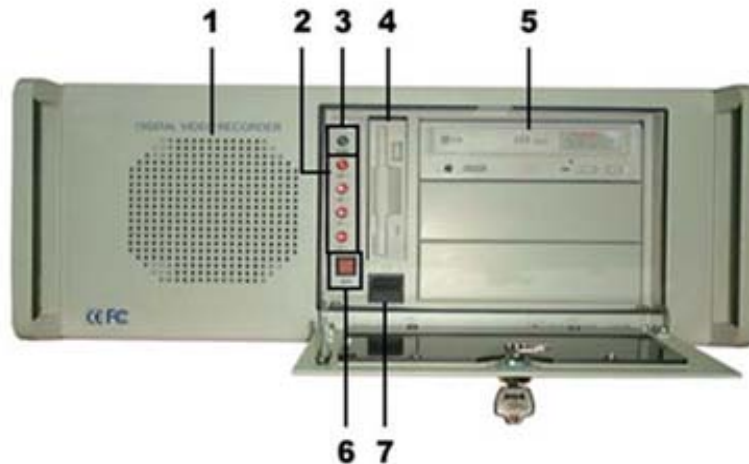
RS-422/485 Pin number



RS-422/485 Connector	
Pin name	Pin number
- TxData	2
+ TxData	3
- RxData	4
+ RxData	5
Signal	1,5

7. Vendoma System Assembly

7-1. Front Views



1. Cooling fan

This fan removes the excessive heat generated in the system and enhances the system's stability.

2. HDD LED

When your hard disk drives (HDDs) are running, this light either blinks or remains steady).

3. Power LED

This light is on when your system is powered on.

4. 3 ½" Floppy Drive (Optional)

5. CD-ROM or DVD-ROM

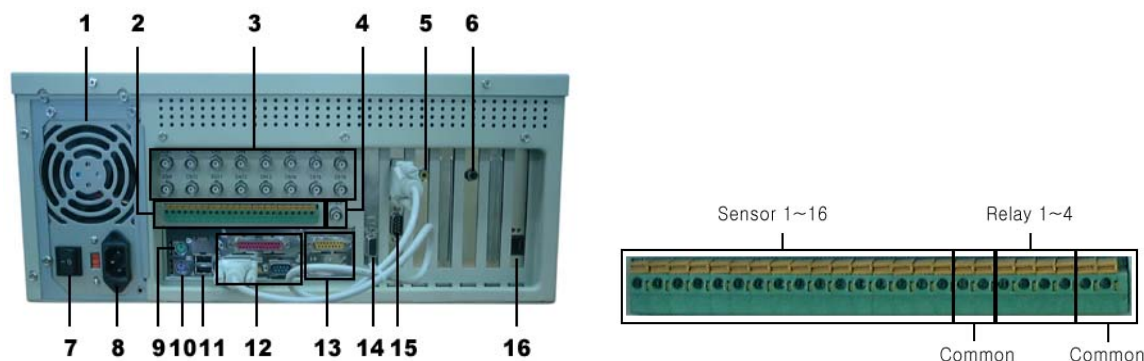
6. Reset switch

7. Power switch

Push this button to power on the DVR. For normal operation, this switch should be used instead of the main power switch on the back of the DVR.

Attention: Please do not use this power switch to stop the DVR Program. If you power off the DVR while it DVR Main is running, the current data and previously saved data may be damaged. Please follow the accepted directions for stopping the DVR program in the User Guide.

7-2. Rear View



1. **AC Power Cooling fan** – This fan also removes the excessive heat generated in the system and enhances the system's stability
2. **Sensor & Relay I/O connectors** – This is the sensor and relay-out port for systems that have a BNC back panel installed. Systems that have a pigtail type connector (also called a Dongle) installed do not need this type of sensor.
3. **Camera input connectors** – This is the camera input for systems that have a BNC back panel installed. Systems that have a pigtail type connector (also called a Dongle) installed do not need this type of In/Out port.
4. **Composite output connector** – This is the TV-out port for analog monitoring found on CAP2X6016 and CAP12016 boards. On other types of boards, the TV-out port is located on the capture board (see part #6 above).
5. **Live video composite output connector** – This is the TV-out port for analog monitoring when you use a Vendoma Live board. In this case, the analog views from TV-out are the same as in multi-view on Vendoma Main.
6. **Capture board composite output connector** – This is the TV-out port for analog monitoring when you use a capture card. In this case, camera views are attained one by one by switching all of the channels being viewed on Vendoma Main.
7. **AC power switch** – This power switch is for turning on the unit. You should **not** use this switch for turning off the system. This switch is for emergency purposes only.
8. **AC power socket** – This is the power socket. Prior to inserting the power cord, you should take care to notice the allowable voltage.
9. **PS/2 mouse connector**
10. **PS/2 keyboard connector**
11. **USB connectors**
12. **LPT, COM1, COM2 connectors** – These are the parallel ports for connecting a printer, an RS485, an RS422, or other serial device.
13. **Game, Sound connectors** – These are the game ports and sound ports for the speakers.

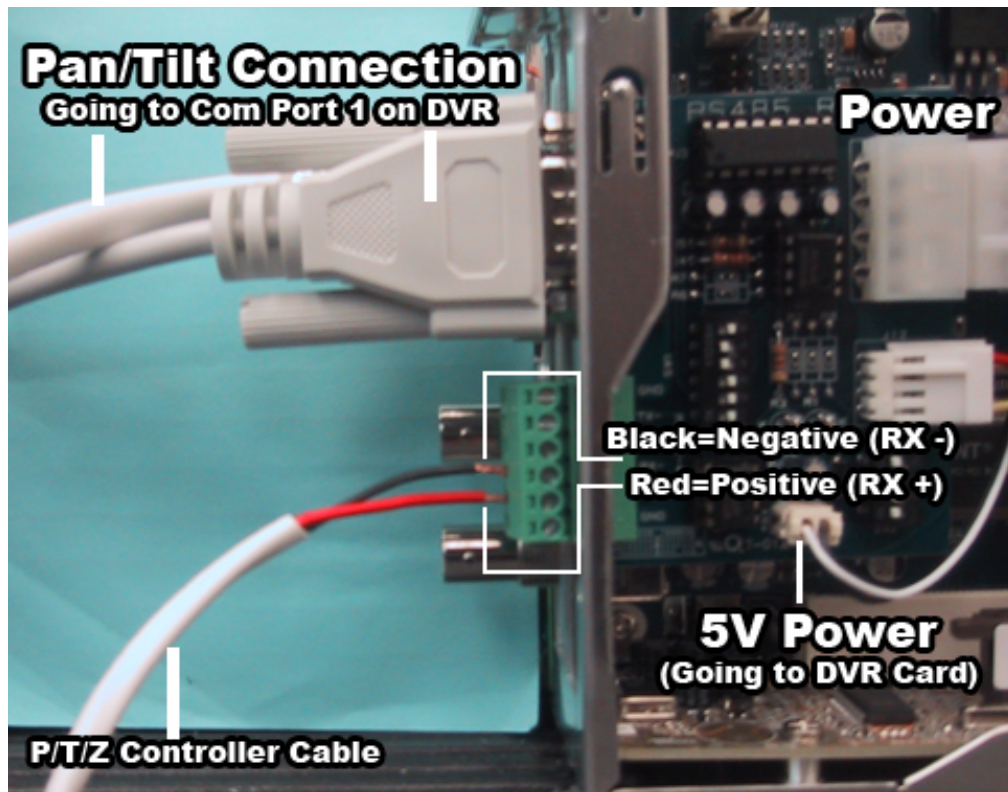
- 14. **Video output connector** – This is for monitor (VGA) connector.
- 15. **Pan/Tilt connector** – If your system was equipped for Pan/Tilt/Zoom controls, then you have one of these connectors
- 16. **LAN connector**

Please note that all DVRs must be connected an Uninterruptible Power Supply (a UPS) with line conditioning. At least a 550VA (15-30 minutes) or more is recommended.

6: Pan/Tilt/Zoom Camera Connection Guide

RS232/485 Converter

This converter is for the control of Pan/Tilt which are supported in the RS232/485 Port

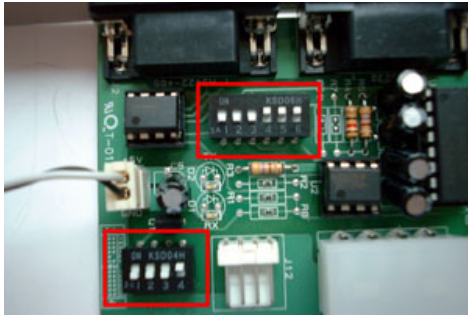


1. Connect DB9 pin cable between the serial Port in the motherboard board and RS232 port in this converter.

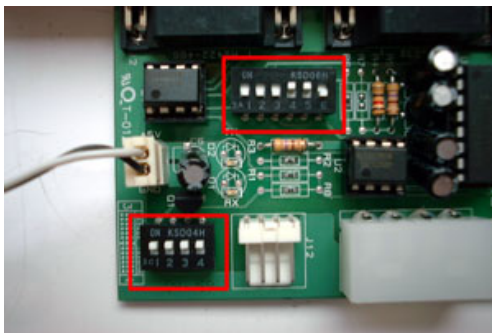
This is what the RS 232-485 Connections look like, you need to connect the Controller Cable from the P/T/Z to this connection as shown above (RX+ and RX-). When you do this, make sure that your P/T/Z's Dip switches are set to the specified camera Channel and com port that you chose, otherwise it will not work*

RS-422/485 Connector	
Pin name	Pin number
Ground	1
- TxData	2
+ TxData	3
- RxData	4
+ RxData	5
Ground	6

2. For power connection, you may utilize one of the following 3 sources.
 - 1 : Connect the power cable from power unit to socket No.2 (+5V)
 - 2 : Connect the power cable from power unit to socket No.3
 - 3 : Connect power cable from capture board to socket No.1(Option)
3. Set the jumper as follow, on RS-422 Pan/Tilt settings



Set the jumper as follows, on RS-485 Pan/Tilt settings.



4. Connect the cable from RS485/422 port to PTZ driver as displayed in the following figure.
5. If you use the PTZ supported with 232 Pan/tilt, connect the cable from the PTZ to PC serial port directly.

***NOTE:**

P/T/Z Cameras require 3 different wiring types.

- A. Coax Cable (RG59/RG6) –For Video
- B. Power Wire(1 Pair)-For AC 24/DC 12 Volt Power
- C. 1 Pair Wire (Positive and negative wire)-For P/T/Z Controls